

Appl. No. 10/081,665  
Reply to Office action of August 12, 2003

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): Microchip fabrication apparatus for processing a wafer comprising:

- a chamber for processing the wafer;
- a plurality of lift mechanism pins within the chamber for supporting the wafer; and
- a plurality of capacitive proximity sensors disposed substantially at a tip of each of said plurality of lift mechanism pins ~~associated with said lift mechanism pins~~ for detecting the wafer position.

Claim 2 (Cancelled)

Claim 3 (Currently amended): The apparatus as claimed in claim 1 wherein pairs of the plurality of capacitive proximity sensors detect the wafer.

Claim 4 (Currently amended): The apparatus as claimed in claim 1 wherein each of the plurality of ~~sensors comprises a~~ capacitive proximity sensors ~~sensor for detecting~~ detect the wafer independent of the other capacitive proximity sensors.

Claim 5 (Cancelled)

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Claim 6 (Currently amended): A method of using the microchip fabrication apparatus of claim 11 ~~detecting an out of position wafer in a microchip fabrication chamber including a pedestal adapted for retention of a wafer thereto and a plurality of lift mechanism pins adapted to effect wafer to pedestal disengagement and engagement~~, the method comprising the steps:

~~providing wafer sensing means associated with at least one of said plurality of lift mechanism pins; and~~

during a period when the lift mechanism pins are in a wafer disengaged position relative to the pedestal, sensing the presence of the wafer with respect to said at least one of the plurality of lift mechanism pins having the wafer sensing means.

Claim 7 (Currently amended): The method of ~~detecting an out of position wafer in a microchip fabrication chamber as claimed in~~ claim 6 wherein sensing the presence of the wafer comprises capacitive sensing.

Claim 8 (Cancelled)

Claim 9 (Currently amended): The method of ~~detecting an out of position wafer in a microchip fabrication chamber as claimed in~~ claim 6 wherein the period when the lift mechanism pins are in a wafer disengaged position relative to the pedestal corresponds to a period prior to chamber processing.

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Claim 10 (Currently amended): The method of ~~detecting an out of position wafer in a microchip fabrication chamber as claimed in claim 6~~ wherein the period when the lift mechanism pins are in a wafer disengaged position relative to the pedestal corresponds to a period subsequent to chamber processing.

Claim 11 (Currently amended): Microchip fabrication apparatus having a chamber including a pedestal with a surface adapted to retain a wafer in a processing position and a plurality of lift mechanism pins adapted to breach the surface of the pedestal, the pins further having respective tips adapted for contact with the wafer from a back side thereof to effect wafer to pedestal disengagement and engagement, the improvement comprising:

the tip of at least one of said plurality of lift mechanism pins having capacitive proximity sensing means disposed substantially within the tip for detecting the proximity of the wafer.

Claim 12 (Cancelled)

Claim 13 (Currently amended): The apparatus as claimed in claim 11 wherein the capacitive proximity sensing means comprises respective pins.

Claim 14 (Currently amended): The apparatus as claimed in claim 12 wherein the capacitive proximity sensing means comprises a probe electrode through a central longitudinal bore of a respective pin, the probe electrode extending from a tip of said at least one of said plurality of lift mechanism pins.

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Claim 15 (New): The apparatus as claimed in claim 1 further comprising:

a capacitive sense logic circuit in communication with the capacitive proximity sensor for determining if a wafer is out of position.

Claim 16 (New): The apparatus as claimed in claim 3 wherein the pairs of the plurality capacitive proximity sensors detect a capacitance between an associated pair of lift mechanism pins.

Claim 17 (New): The method of claim 6 further comprising the step of:

determining if a wafer is out of position.

Claim 18 (New): The method of claim 17 further comprising the step of:

providing a capacitive sense logic circuit in communication with the capacitive proximity sensor to perform the step of determining if a wafer is out of position.